

What is claimed is:

1. A transfective liquid crystal display, comprising:

a top plate comprising a transparent electrode;

a bottom plate comprising transfective electrodes of aluminum compound;

a liquid crystal layer sandwiched between the top plate and the bottom plate; and

a light source behind the bottom plate,

wherein an image is generated by the transfective liquid crystal display when either ambient light is incident on the surface of the top plate or when light is generated by the light source.

2. The transfective liquid crystal display as claimed in claim 1, wherein the bottom plate further comprises:

a plurality of parallel scan lines;

a plurality of parallel data lines formed perpendicular to the scan lines, the scan lines and the data lines being arranged to form a matrix of pixel regions with each of the pixel regions bounded by two adjacent scan lines and two adjacent data lines; and

a plurality of thin film transistors formed at intersections between the scan lines and data lines,

wherein each of the transfective electrodes is respectively disposed in one of the pixel regions and functions as a pixel electrode.

3. The transfective liquid crystal display as claimed in claim 2, wherein the transfective electrodes have a visible light transmittance of not less than 10%.

4. The transfective liquid crystal display as claimed in claim 3, wherein the transfective electrodes have a thickness in the range of about 100 to about 400 angstroms.

5. The transfective liquid crystal display as claimed in claim 4, wherein the transfective electrodes have a thickness in the range of about 200 to about 300 angstroms.

6. The transfective liquid crystal display as claimed in claim 5, wherein the transfective electrodes have a thickness of about 250 angstroms.

7. The transflective liquid crystal display as claimed in claim 1, wherein the transflective electrodes are formed from a thin film of aluminum nitride deposited with a sputter power of from about 10 to about 40 Kilowatts with a film forming pressure of about 0.3 to about 1 Pa.

8. The transflective liquid crystal display as claimed in claim 1, wherein the aluminum compound includes aluminum nitride.

9. A transflective liquid crystal panel, comprising:

a top plate comprising a transparent electrode;

a bottom plate comprising transflective electrodes of aluminum compound; and

a liquid crystal layer sandwiched between the top plate and the bottom plate,

wherein an image is generated by the transflective liquid crystal display panel when light is incident on the surface of the top plate or the bottom plate.

10. The transflective liquid crystal panel as claimed in claim 9, wherein the aluminum compound includes aluminum nitride.

11. The transflective liquid crystal panel as claimed in claim 9, wherein the bottom plate further comprises:

a plurality of parallel scan lines;

a plurality of parallel data lines formed perpendicular to the scan lines, the scan lines and the data lines being arranged to form a matrix of pixel regions with each of the pixel regions bounded by two adjacent scan lines and two adjacent data lines; and

a plurality of thin film transistors formed at intersections between the scan lines and data lines,

wherein each of the transflective electrodes is respectively disposed in one of the pixel regions and functions as a pixel electrode.

12. The transflective liquid crystal panel as claimed in claim 11, wherein the transflective electrodes have a visible light transmittance of not less than 10%.

13. The transflective liquid crystal panel as claimed in claim 12, wherein the transflective electrodes have a thickness in the range of about 100 to about 400 angstroms.

14. The transflective liquid crystal panel as claimed in claim 13, wherein the transflective electrodes have a thickness in the range of about 200 to about 300 angstroms.

15. The transflective liquid crystal panel as claimed in claim 9, wherein the transflective electrodes have a thickness of about 250 angstroms.

16. The transflective liquid crystal panel as claimed in claim 9, wherein the transflective electrodes are formed from a thin film of aluminum nitride deposited with a sputter power of
5 from about 10 to about 40 Kilowatts with a film forming pressure of about 0.3 to about 1 Pa.

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